UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/024,829	12/18/2001	Kjell Ekberg	45687-00083USPT	5692

23932 7590 06/27/2003

JENKENS & GILCHRIST, PC
1445 ROSS AVENUE
SUITE 3200
DALLAS, TX 75202

EXAMINER	
VERSTEEG, STEVEN H	
ART UNIT	PAPER NUMBER
1753	5

DATE MAILED: 06/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/024,829	EKBERG, KJELL	
	Examiner	Art Unit	
	Steven H VerSteeg	1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 March 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-11,13-15 and 18* is/are rejected.

7)☒ Claim(s) *4,12,16 and 17* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 December 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "**30**" has been used to designate both "double sided electrode plate" and "channels". A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

3. The abstract of the disclosure is objected to because it includes the word "said"; and "recesse(s)" should be "recess(es)" at line 6. Correction is required. See MPEP § 608.01(b).

Claim Objections

4. Claims 2-5, 7, 10-13, and 18 are objected to because of the following informalities: recesse(s)" should be "recess(es)" in claims 2, 3, 4, and 18 at lines 3, 3, 4, and 8 respectively; claim 7 utilized improper Markush terminology and should be changed to read "selected from the group consisting of"; claim 10 does not end in a period; and "comprises" should be "comprise" in claims 11 and 13 at lines 1 and 1 respectively. Claim 5 depends from claims 2-4

and contains all of the limitations of claims 2-4. Therefore, claim 5 is objected to for the same reasons as claims 2-4. Claims 11-13 depend from claim 10 and contain all of the limitations of claim 10. Therefore, claims 11-13 are objected to for the same reason as claim 10. Claim 12 depends from claim 11 and contains all of the limitations of claim 11. Therefore, claim 12 is objected to for the same reasons as claim 11. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claim 13 recites the limitation "said base plate" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1, 3, 5-7, 9-11, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by US 4,666,679 to Masuda et al. (Masuda).

10. For claim 1, Applicant requires an ozone generator comprising a dielectric member, a first electrode on the first face of the dielectric member, and a second electrode on the second face of the dielectric member. The first electrode is made of an electrically conductive material and there is at least one channel between the faces of the dielectric member and the first electrode.

11. Masuda discloses an ozone generator (abstract) comprising a first electrode **1**, second electrode **5**, and a dielectric member **3** between them (Figure 1). The dielectric member is corrugated so that there is a recess between the electrodes and the dielectric member.

12. For claim 3, Applicant requires the dielectric member to have at least one recess between the dielectric member and the electrode with the recess in the face of the dielectric. As can be seen from Figure 1, the recess is in the dielectric member and is facing both electrodes.

13. For claim 5, Applicant requires the second electrode to be a conductive plate or foil in contact with the dielectric member. For claim 6, Applicant requires the electrode to be a coating on the dielectric member. For claim 7, Applicant requires the electrodes to be made of iron, steel, tungsten, titanium, or alloys thereof. Masuda shows that the second electrode is a conductive plate or coating (Figures 1-3) on the dielectric member (Figure 2) and is made of tungsten (col. 2, l. 34-36).

14. For claim 9, Applicant requires the recesses to extend across the surface at a finite spacing between them. As can be seen from Figure 2, Masuda shows the limitation.

15. For claim 10, Applicant requires the recesses to have a cross section such that when AC high voltage is applied, corona discharge occurs. Masuda provides the limitation (col. 1, l. 10-15).

16. For claim 11, Applicant requires the corona discharge site to have a sharp ridge. Figure 1 shows that the dielectric plate recesses have sharp ridges because of the corrugation.

17. For claim 13, Applicant requires the corona discharge sites to have rounded off corners to provide a nook. The corrugation provides rounded off corners for the discharge sites.

18. For claim 15, Applicant requires the dielectric member and the electrodes to be essentially flat. Figures 2 and 3 show that the members are essentially flat.

19. Claims 1, 2, 5-11, 14, 15, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by US 2001/0046459 A1 to St. Onge et al. (St. Onge).

20. Claims 1, 5-7, 9-11, and 15 are described above. For claim 2, Applicant requires the recess to be in the first electrode on the face that is in contact with the dielectric member. For claim 8, Applicant requires the first electrode to be a corrugated plate. For claim 14, Applicant requires a second dielectric member in contact with the first electrode and recesses on both sides of the first electrode as well as a third electrode on the other side of the second dielectric member.

21. For claim 18, Applicant requires an ozone generator comprising a flat dielectric plate, a first and second electrode, and connectors for coupling the electrode to a voltage source. The first electrode has at least one recess in the face that is in contact with the dielectric plate so that channels are between the dielectric and first electrode.

22. St. Onge discloses an ozone generator (abstract) comprising a first electrode **40**, second electrode **20**, third electrode **20** (Figure 3), first dielectric layer **30**, and second dielectric layer **30** (Figure 3). The first electrode is in contract with the first and second dielectric layer. The second electrode is in contact with the first dielectric layer. The third electrode is in contact with the second dielectric layer. The first, second, and third electrodes are all corrugated so that there is a recess in the electrodes on the faces that are in contact with the dielectric layers. The recesses have a finite spacing between them. The electrodes are essentially flat (Figure 3) and are made of steel [0034]. When AC voltage is applied to the electrodes, corona discharge occurs [0037]. Because the electrodes are corrugated, the discharge sites have sharp ridges and rounded off corners.

Allowable Subject Matter

23. Claims 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

24. Claims 4 and 12 would be allowable if written to overcome the claim objection presented above.

25. The following is a statement of reasons for the indication of allowable subject matter: it is neither anticipated nor obvious over the prior art of record to have an ozone generator as claimed by Applicant in claim 4 wherein both the dielectric member and the electrode have recesses formed in their respective faces.

26. St. Onge has the recess in the electrodes. Masuda has the recesses in the dielectric. There is no motivation to combine the references so that the recesses are in both the dielectric and the electrode unless hindsight reasoning is used.

27. It is also neither anticipated nor obvious over the prior art of record to have an ozone generator as claimed by Applicant in claim 12 wherein the corona discharge sites are made by two overlapping semi-circles. Both Masuda and St. Onge use corrugates plates for the recesses. There are no overlapping semi-circles and such would not be obvious.

28. It is also neither anticipated nor obvious over the prior art of record to have an ozone generator as claimed by Applicant in claims 16 and 17 wherein the dielectric member and electrode are tubular, arcuate, arched, curved or bent. Masuda and St. Onge show that the electrode and dielectric are essentially flat. Modification to the orientation would require hindsight.

General Information

For general status inquiries on applications not having received a first action on the merits, please contact the Technology Center 1700 receptionist at (703) 308-0661.

For inquiries involving Recovery of lost papers & cases, sending out missing papers, resetting shortened statutory periods, or for restarting the shortened statutory period for response, please contact Palestine Jenkins at (703) 308-3521.

For general inquiries such as fees, hours of operation, and employee location, please contact the Technology Center 1700 receptionist at (703) 308-0661.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H VerSteeg whose telephone number is (703) 305-4473. The examiner can normally be reached on Mon - Thurs (7:30 AM - 6:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X Nguyen can be reached on (703) 308-3322. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Steven H VerSteeg
Primary Examiner
Art Unit 1753

shv
June 26, 2003